

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the application of:

Fritz KRAUSE

US Application No.: 10/550,043

Filed: September 26, 2006.

Confirmation No.: 8089

Examiner: J. E. Redman

Group Art Unit: 3634

For: SEALING ARRANGEMENT FOR SEALING AND GUIDING A POWERED
WINDOW PANE, PARTICULARLY OF A MOTOR VEHICLE

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December 17, 2010

APPEAL BRIEF

Appellant hereby appeals to the Board of Patent Appeals and Interferences from the Examiner's final rejection of claims as set forth in the Office Action electronically transmitted July 16, 2010, which rejections were upheld in the Advisory Action electronically transmitted October 15, 2010.

A timely Notice of Appeal was filed on October 18, 2010.

Real Party-in-Interest

Metzeler Automotive Profile Systems GmbH is the real party-in-interest in this proceeding.

Related Appeals and Interferences

No appeals or interferences are known which will directly affect, be directly affected by, or have bearing on the Board's decision in the pending appeal.

Status of the Claims

Claims 14-28 are pending in the application, with claim 14 being the sole independent claim. Claims 1-13 were cancelled during prosecution. All of the pending claims have been finally rejected, and are being appealed herein. Appendix I provides a clean, double-spaced copy of the claims.

Status of Amendments

The claims were amended after final rejection in a Request for Reconsideration filed October 6, 2010. Those amendments were entered pursuant to the October 15, 2010, Advisory Action, and are included in the claims set forth in Appendix I.

Summary of Claimed Subject Matter

The present invention relates generally to a sealing arrangement for sealing and guiding a movable window pane, particularly of a motor vehicle.

According to one embodiment of the invention, independent claim 14 recites a sealing arrangement for sealing and guiding a movable window pane 40, particularly of a motor vehicle. The sealing arrangement includes a sash 10 and a seal 20.

The sash 10 frames the window pane 40, and includes an inner flange 11, an outer flange 12 spaced away from the inner flange 11, and a middle segment 17. The inner flange 11 and the outer flange 12 form a door-cavity section 13 for accommodating the window pane when lowered. The inner flange 11 and the outer flange 12 form further a first guiding portion 14 and a second guiding portion 15 for guiding the window pane 40.

The seal 20 has a nearly U-shaped cross-section and is made integrally of an elastomer. The seal includes an inner leg portion 21 securable to the inner flange 11, an outer leg portion 22

securable to the outer flange 12 and, remote from the door-cavity portion 13, a base portion 23 positioned on the middle segment 17.

The middle segment 17 of the sash 10 connects the inner flange 11 and the outer flange 12 at least in the area of the first guiding portion 14, and is positioned at a distance ("a" in Figure 7) from the inner flange 11 and the outer flange 12 in the area of the second guiding portion 15.

The base portion 23 is positioned at a distance from the inner leg portion 21 and the outer leg portion 22 in the area of the second guiding portion 15.

The base portion 23, the inner leg portion 21 and the outer leg portion 22 each having a sealing element 24, 25, 26. An inner sealing element 24 is arranged on the inner leg portion 21 and an outer sealing element 25 is arranged on the outer leg portion 22. The inner sealing element 24 and the outer sealing element 25 each is configured as a hollow chamber and has a surface area 28, 29 for contacting a side surface of the window pane 40. The contact surface areas 28, 29 are configured in two directions each perpendicular to the other such that the window pane can be powered reversible between the inner sealing element 25 and the outer sealing element 26. See para. [0037].

Grounds of Rejection to be Reviewed on Appeal

1. Whether claims 14, 16-21, 23-27, 29, 30, and 32 are unpatentable over U.S. Patent No. 4,470,223 (Mesnel) in view of U.S. Patent No. 4,809,463 (Schroder).
2. Whether claim 15 is unpatentable over Mesnel in view of Schroder and further in view of U.S. Patent No. 3,333,364 (Herr).
3. Whether claims 22, 28, and 31 are unpatentable over Mesnel in view of Schroder and further in view of U.S. Patent Application Publication No. 2003/0019160.

Argument

The present invention relates to sealing arrangements, and more specifically relates to a novel sealing arrangement for a motor vehicle.

Appellant provides, for the first time, a sealing arrangement for sealing and guiding a movable window pane that provides effective sealing and guiding of the window in distinct regions of the frame, namely on the two side regions of the window opening where the edges of

the window are guided for up and down movement, the upper edge of the window opening where the upper edge of the window is received and sealed when the window is closed, and the door cavity region in which the window is stored when it is fully down. The seal is designed so that the side portions and the top portion of the seal, though not the frame, are the same. The seal has a different configuration in the door cavity portion and along a portion of a second guiding portion.

INDEPENDENT CLAIM 14

As set forth in Claim 14, the middle segment connects the inner flange and the outer flange in the area of the first guiding portion but the middle segment is positioned at a distance from the inner flange and the outer flange in the area of the second guiding portion. Thus, in one embodiment, the invention provides for an integrally formed seal itself that has a different arrangement in different sections.

Furthermore, and as can be seen easily by reference to Figure 2 and especially the sealing element 25, there are two contact surface areas arranged perpendicular to each other so that the window pane can be powered reversible, that is move in two directions while maintaining the seal.

One of ordinary skill in the art would not have combined Mesnel and Schroder as suggested.

For independent claim 14, the Examiner relies on Mesnel in view of Schroder. Mesnel does not show a single integral piece, but the Examiner now takes the position that integral versus separate is not patentable. Unlike the integral seal of claim 14, Mesnel is made from a plurality of elements. This is an important difference between Mesnel and the Appellant. Appellant aims to address the continuing need for less and less expensive parts and less and less expensive installation that the vehicle market requires. Providing a one-piece seal addresses both of these requirements.

Mesnel is specific. He describes a pair of shaped gripping and covering frame elements or enclosures. The flocking 6 on the spacer brace 5 appears to be applied directly to the spacer brace as described at Column 2, Line 20, *et. seq.* Thus the flocking on the spacer brace is not

even a part of Mesnel's seal let alone an integral part as claimed by Appellant. There is no seal on Mesnel's spacer brace, merely flocking.

Furthermore, Mesnel appears to provide a seal only for the vertical portions of the window opening and the beveled end portion, not for the top portion. Appellant in distinction provides a seal that covers all four sides of the window opening as well as the rails that extend into the door cavity. Appellant's integral one piece seal is a distinct improvement over the multipart seal of Mesnel.

The Examiner then relies on Schroder to show an integral one piece seal. There are a number of important differences between Schroder's seal and Appellant's seal. In Schroder, the base portion 10 must be physically torn from the side portions 9 at tear points 12 to produce the seal shown in Figure 3. Reference to Figure 3 of Schroder illustrates another difference, previously mentioned, namely that the inner and outer sealing elements of Appellant's invention have contact surface areas configured in two directions perpendicular to each other which is not shown or suggested by either Mesnel or Schroder. Appellant's arrangement provides better sealing as the window is moved in the up and down directions respectively.

The Examiner suggests that it would have been obvious to provide the weather seal of Mesnel as an integral one piece elastomer weather seal as taught by Schroder, but this ignores the teaching of Mesnel. Note that in Figure 7, Mesnel shows what appears to be a one piece seal as an example of the prior art. Mesnel is especially designed to be used on automobile door frames that are not assembled and shaped by bending the metal profile in the form of a U-shaped window frame, but are formed by stamping double door frames comprising an inner panel and an outer panel joined together to form a frame. It is an explicit object of Mesnel to eliminate the disadvantages of the prior art by providing a pair of shaped gripping and covering frame elements or enclosures, not a single integral piece. See, Column 1, Summary of the Invention. The advantages noted by the Examiner are advantages of Appellant's invention, and Mesnel in fact teaches away from using a single integral piece.

For the foregoing reasons, Appellant submits that the proposed combination of Mesnel and Schroder is improper, at least because Mesnel teaches away from the combination. Appellant request that the rejection of claim 14 be vacated.

Even if the combination of Mesnel and Schroder is proper, those documents still fail to teach all features of independent Claim 14.

As just discussed, claim 14 cannot stand because the combination of Mesnel and Schroder is improper. Nevertheless, the combination still fails to teach all features of claim 14. According to claim 14, a middle segment connects the inner flange and the outer flange at least in the area of the first guiding portion and the middle segment is positioned at a distance from the inner flange and the outer flange in the area of the second guiding portion. Neither Schroder nor Mesnel teach or suggest these features.

In a described embodiment of the present invention, the sash 10 includes an inner flange 11 and an outer flange 12 that define a number of guiding portions, including the first guiding portion 14 (guiding the left side of the window in Figure 1) and a second guiding portion 15 (guiding the right side of the window in Figure 2). Figures 6 and 7 are cross-sections of the second guiding portion 15, taken along section lines VI and VII, respectively. As shown in Figure 7, the middle section 17 is disposed at a distance "a" from the flanges 11, 12. In the illustrated example, the distance "a" increases below the section line VII to accommodate the shape of the opening for the window pane, i.e., because the seal follows an arc to the generally horizontal bottom portion at the cavity portion 13, while the middle section 17 stays substantially vertical, to constrain the side of the window pane 40. Figures 1 and 7 are reproduced here:

Fig. 1

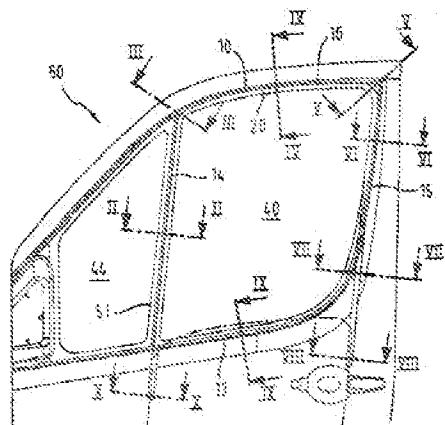


Fig. 7

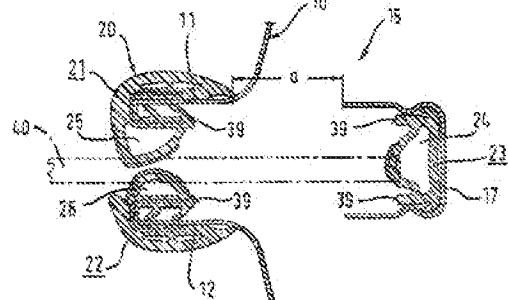
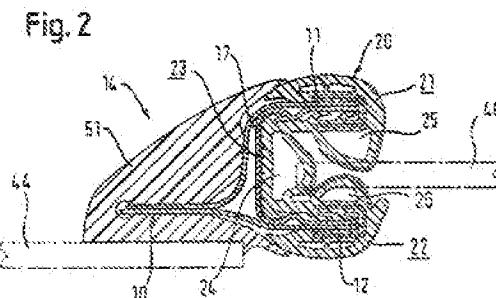


Figure 1 has been annotated to include reference numeral 17 and reference letter A. As in other figures, reference numeral 17 identifies the middle section, and is included here in the region of the second guiding portion 15 where the middle section separates from the inner and outer flanges 11, 12. Reference letter A identifies the opening defined by the sash. The shape of the opening A below Section Line VII in Figure 1 requires the separation of the middle section 17 from the inner and outer flanges 11, 12, because the middle section continues to guide the window 40 generally vertically in the door, below the opening defined by the sash. As will be appreciated, the distance "a" continues to increase below section line VII.

Figure 2 is a cross-sectional view along Section Line II of Figure 1, and shows the sealing arrangement in the region of the first guiding portion 14. In this portion, the middle section 17 connects the inner flange 11 and the outer flange 12. Figure 2 is illustrated here:



Thus, the sealing arrangement is different in the first guiding portion 14 and the second guiding portion 15 in the embodiment of Figure 1. Claim 14 describes such an arrangement, because claim 14 recites that the middle segment connects the inner flange and the outer flange at least in the area of the first guiding portion, and the middle segment is positioned at a distance from the inner flange and the outer flange in the area of the second guiding portion.

This construction is further defined in claim 14 by the recitations of the seal including a base portion 23 positioned on the middle segment 17 and the base portion 23 being positioned at a distance from the inner leg portion 21 and the outer leg portion 22 (of the seal) in the area of the second guiding portion 15.

The cited documents do not teach at least this feature.

In Mesnel, the middle segment is alleged to be the brace 5 shown in Figure 4. The brace 5 connects two parallel sides. Nowhere is the brace 5 shown or described as being distant from the parallel sides. Figure 4 of Mesnel is reproduced here:

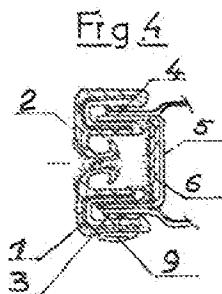
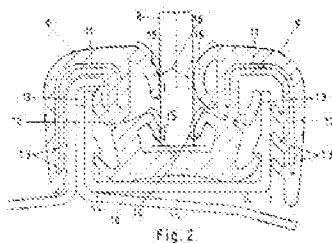


Figure 2 of Schroder is reproduced here:



As best understood, the generally horizontal, bottom portion of the flange 7 shown in Figure 2 is the claimed middle segment. Nowhere does Schroder show or describe separating and spacing this bottom portion of the flange 7 from the upward-extending vertical legs of the flange.

Thus, neither reference teaches that a middle segment connects an inner flange and an outer flange at least in the area of a first guiding portion, and that the middle segment is positioned at a distance from the inner flange and the outer flange in the area of a second guiding portion, as set forth in independent claim 14. The Examiner seems not to have addressed these features at all in the rejection.

For the foregoing reasons, Appellant respectfully requests that the rejection of claim 14 be vacated, because the cited art fails to teach at least one feature of that claim. The Examiner also has made no showing that this feature is obvious.

DEPENDENT CLAIM 15

Claim 15 is rejected as obvious over Mesnel in view of Schroder and further in view of Herr. The Examiner relies on Herr to show a hollow seal along a bottom/base portion. The Examiner suggests that it would have been obvious to modify the weatherseal of Mesnel with a hollow portion along the base as shown by Herr but this ignores the fact that Mesnel does not provide a seal at all along the base but merely flocking. It appears that the sole function of the flocking of Mesnel is to reduce friction. As Mesnel states, the construction of the elements 1 and 2 provide easy installation while one simultaneously tightens a spacer brace 6 which has flocking on the inner face thereof, *i.e.*, on the portion against which the glass window abuts.

There is no suggestion in Mesnel to form a seal on the spacer brace, so it would not have been obvious to modify such a seal to include a hollow portion, as shown in Herr. Appellant request that the rejection of claim 15 be vacated.

DEPENDENT CLAIMS 16-22

Dependent claim 16-32 depend from claim 14 and are deemed allowable by virtue of this dependency, as well as for reciting other features of the invention. Inasmuch as the Examiner has failed to make a *prima facie* showing of obviousness by failing to address the elements of these claims individually, Appellant requests that these rejections be vacated.

Summary

The combination relied upon to reject claim 14 is improper, and even if proper, fails to teach or render obvious all elements of that claim.

Conclusion

For the foregoing reasons, Appellant respectfully requests that the Board of Patent Appeals and Interferences reverse the rejection by the Examiner and mandate allowance of the claims.

Respectfully submitted,



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APPENDIX I - CLAIMS ON APPEAL

1-13. (Cancelled)

14. (Previously Presented) A sealing arrangement for sealing and guiding a movable window pane, particularly of a motor vehicle, comprising:

sash framing the window pane, the sash comprising an inner flange and an outer flange spaced away from the inner flange, and a middle segment, the inner flange and the outer flange form a door-cavity section for accommodating the window pane when lowered, the inner flange and the outer flange form further a first guiding portion and a second guiding portion for guiding the window pane; and

a seal having a nearly U-shaped cross-section and being made integrally of an elastomer, the seal comprising an inner leg portion securable to the inner flange, an outer leg portion securable to the outer flange and, remote from the door-cavity portion, a base portion positioned on the middle segment;

the middle segment connecting the inner flange and the outer flange at least in the area of the first guiding portion, the middle segment being positioned at a distance from the inner flange and the outer flange in the area of the second guiding portion;

the base portion being positioned at a distance from the inner leg portion and the outer leg portion in the area of the second guiding portion;

the base portion, the inner leg portion and the outer leg portion each having a sealing element;

an inner sealing element being arranged on the inner leg portion and an outer sealing element being arranged on the outer leg portion, the inner sealing element and the outer sealing element each being configured as a hollow chamber and having a surface area for contacting a side surface of the window pane;

the contact surface areas being configured in two directions each perpendicular to the other such that the window pane can be lowered reversibly between the inner sealing element and the outer sealing element.

15. (Previously Presented) The sealing arrangement as set forth in claim 14, wherein a central sealing element arranged on said base portion is configured as a hollow chamber and provided with a surface area for contacting an end face of said window pane.

16. (Previously Presented) The sealing arrangement as set forth in claim 14, wherein at least one of said contact surface areas is provided with a friction-reducing flock coating.

17. (Previously Presented) The sealing arrangement as set forth in claim 14, wherein said inner leg portion is provided with a slot for engaging said inner flange.

18. (Previously Presented) The sealing arrangement as set forth in claim 14, wherein said outer leg portion is provided with a slot for engaging said outer flange.

19. (Previously Presented) The sealing arrangement as set forth in claim 17, wherein said sealing arrangement comprises retaining lips arranged in said slot.

20. (Previously Amended) The sealing arrangement as set forth in claim 14, wherein said sealing arrangement comprises a bracing element for strengthening at least one of said inner leg portion and said outer leg portion.

21. (Previously Presented) The sealing arrangement as set forth in claim 14, wherein said seal is extruded from a material selected from the group consisting of elastomers, thermoplastic elastomers and ethylene propylene diene monomers.

22. (Previously Presented) The sealing arrangement as set forth in claim 20, wherein at least one of said inner leg portion and said outer leg portion is provided with a hollow chamber covering said bracing element at least in part.

23. (Previously Presented) The sealing arrangement as set forth in claim 14, wherein said sash comprises a middle segment interconnecting said inner flange and said outer flange in the region of at least one of said first guiding portion and of a portion receiving said upper edge of said window pane.

24. (Previously Presented) The sealing arrangement as set forth in claim 23, wherein said base portion is arranged on said middle segment.

25. (Previously Presented) The sealing arrangement as set forth in claim 23, wherein said sash comprises a second guiding portion in which said middle segment is separated from said inner flange and said outer flange and said base portion is separated from said inner leg portion and said outer leg portion.

26. (Previously Presented) The sealing arrangement as set forth in claim 25, wherein said sealing arrangement comprises a spacing between said middle segment and said inner flange and said outer flange such that it is continuously rendered wider along said second guiding portion.

27. (Previously Presented) The sealing arrangement of claim 7 in which said bracing element being made of a metallic material and configured roughly U-shaped in cross-section and with a plurality of perforations.

28. (Previously Presented) The sealing arrangement of claim 9 in which said hollow chamber is divided into several portions by at least one web.

29. (Previously Presented) The sealing arrangement of claim 10 in which said middle segment has a generally U-shaped cross-section.

30. (Previously Presented) The sealing arrangement of claim 20 in which said bracing element is made of a metallic material and configured generally U-shaped in cross-section and with a plurality of perforations.

31. (Previously Presented) The sealing arrangement of claim 22 in which said hollow chamber is divided into several portions by at least one web.

32. (Previously Presented) The sealing arrangement of claim 23 in which said middle segment has a generally U-shaped cross-section

APPENDIX II – EVIDENCE

None.

APPENDIX III – RELATED PROCEEDINGS

None.